

MAYUGE DISTRICT EXAMINATIONS BOARD

PRIMARY LEAVING MOCK ASSESSMENT, 2024

MATHEMATICS

Time Allowed: 2 hours 30 minutes

Random No.	Personal No.

Candidate's Name:

Candidate's Signature:

District ID No:

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Read the following instructions carefully:

1. Do not write your school or district name anywhere on this paper.
2. This paper has two sections: A and B. Section A has 20 questions and Section B has 12 questions. The paper has 8 printed pages altogether.
3. Answer all questions. All the working for both sections A and B must be shown in the spaces provided.
4. All working must be done using a blue or black ball point pen or ink. Any work done in pencil other than graphs and diagrams will not be marked.
5. No calculators are allowed in the examination room.
6. Unnecessary changes in your work and handwriting that cannot easily be read may lead to loss of marks.
7. Do not fill anything in the table indicated: "For Examiners' use only" and boxes inside the question paper.

FOR EXAMINERS' USE ONLY		
Qn. No.	Marks	EXR'S NO.
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
TOTAL		

SECTION A : 40 MARKS.

Answer all questions in this section.

Questions 1 to 20 carry two marks each.

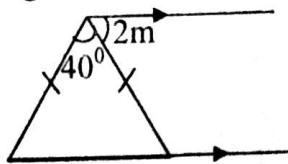
1. Work out:

$$\begin{array}{r} 430 \\ + 458 \\ \hline \end{array}$$

2. Determine the next decimal number in the sequence below;
 0.25, 0.16, 0.09, 0.04, _____

3. There are; $\{a\}$, $\{m\}$, $\{r\}$, $\{a, r\}$, $\{r, m\}$ $\{a, m\}$ and $\{r, a, m\}$ proper subsets in set K. Find $n(K)$

4. Solve for the value of m in degrees from the figure below.

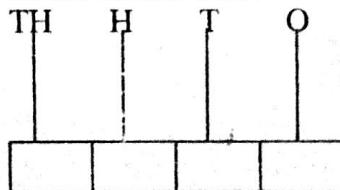


5. What numeral has been expanded to get;
 $(8 \times 10^2) + (3 \times 10^0) + (5 \times 10^{-1}) + (3 \times 10^{-2})$

6. Convert $0.\overline{45}$ to a rational number in the lowest form.

7. Subtract: $(y + p)$ from $3y - p$.

8. Show the smallest 4-digit numeral that can be formed from $\boxed{2}, \boxed{0}, \boxed{1}$ and $\boxed{3}$ on the abacus below.



9. Given that: $F_P = \{2_1, 2_2, 3_1, 5_1\}$
 $F_X = \{2_1, 3_1, 5_1\}$
 Work out the Lowest Common Multiple (LCM) of P and X.

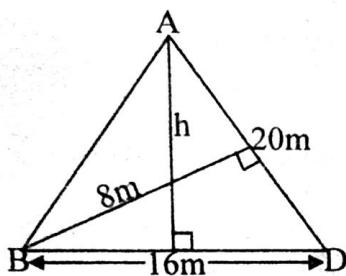
10. Calculate the mean of $6m, 10, 9m, 8$ and 7 .

11. Solve for t:

$$3 - 5 = t \text{ (finite 7)}$$

12. Simplify: $3^2 \times 16 + 2^3$.

13. Calculate the height (h) on the figure below in metres.



14. A fisherman saw a boat on water on a bearing of 090° . What is the bearing of a fisherman from the boat?

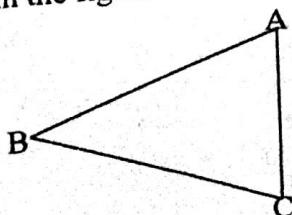
15. Given that a US dollar costs Ug Shs. 3730. If a tourist comes to Entebbe with 710 US dollars, how much money in Uganda shillings will he get from Tennis Forex Bureau?

16. In an hour a watch loses 5 seconds. How long will it take to lose 2 minutes?

17. A team can win, loose or draw the game, 18. what is the probability that a team will draw the game?

The price of a radio was increased by 10% to Shs. 34,000. Calculate the original price of the radio.

19. Using a ruler, a pencil and a pair of compasses only, bisect angle ABC in the figure below.



20. 8 men can do a piece of work in 5 days. How many men can do the same piece of work in 4 days?

SECTION B : 60 MARKS

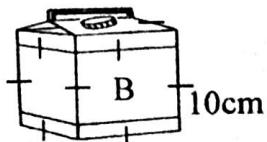
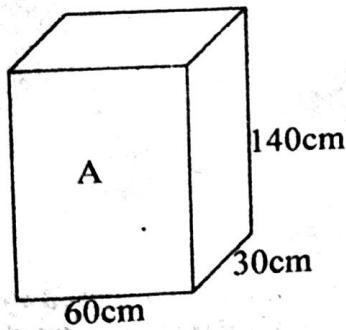
Answer all questions in this section.

Marks for each question are indicated in the brackets.

21. (a) Express 30.4×10^{-2} as a single numeral. (2 marks) (b) Given that $33_n = 120_{\text{three}}$, solve for base n. (2 marks)

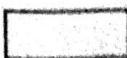
- (c) A lady bought 300 tomatoes each at Shs. 500. She sold them in heaps of five and six tomatoes each.
If she made 30 heaps of six tomatoes, how many heaps of five tomatoes did she make? (2 marks)

22. Below is a rectangular cuboidal box A with a cube juice tin B.

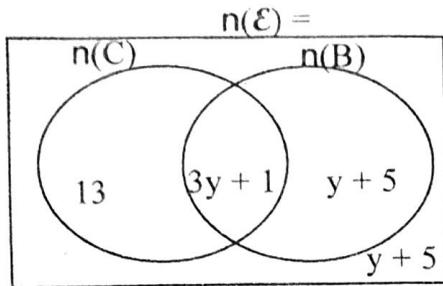


- (a) Calculate the volume of cuboidal box A. (2 marks)

- (b) How many cube juice tins can be obtained from the cuboidal box A? (3 marks)



23. At a gathering of women, $y + 5$ women ate beef (B) only, $3y + 14$ women ate chicken (C), $3y + 1$ women ate both chicken and beef while $y + 5$ ate neither of the two dishes.



- (a) If $n(B) = 22$ women, solve for the value of y . (2 marks)

- (b) Find the total number of women in the gathering altogether. (2 marks)

24. (a) With the help of a ruler, a sharp pencil and a pair of compasses only, construct a quadrilateral $WXYZ$ where $WX = 6\text{cm}$, angle $WXY = 60^\circ$ and $XY = WZ = 7\text{cm}$. (4 marks)

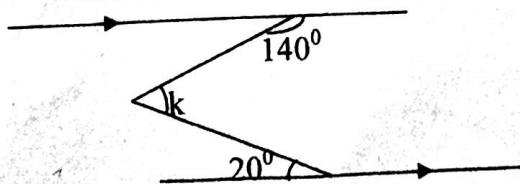
- (b) Drop a perpendicular line bisector from Y to meet WX at A and measure YA . (2 marks)



25. A motorist left home for town at an average speed of 80km/hr for 3 hours. He rested for an hour and then returned back home at a steady speed of 60km/hr.
- (a) Find the distance between his home (b) Calculate the motorist's average and town. (2 marks) speed for the whole journey. (3 marks)

26. Andrew went shopping and bought the following items.
- (i) $1\frac{1}{2}$ litres of cooking oil at Shs. 6000 a litre.
(ii) A bar of soap at Shs. 4000.
(iii) 14 apples at Shs. 5000 per five apples
- If he went with 3-ten thousand shilling notes, how much was his change? (4 marks)

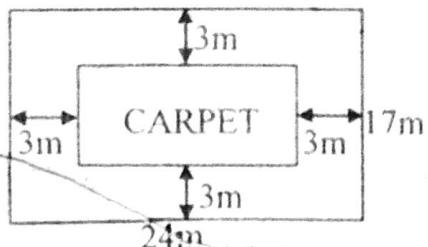
27. (a) Work out the size of angle marked k in degrees. (2 marks)



- (b) The interior angle sum of a regular polygon is 1440° . How many sides has the polygon? (2 marks)

28. (a) Given that $t = \frac{2}{5}$ and $y = \frac{3}{5}$
Solve for $\frac{t}{y}$ (2 marks)
- (b) Find the perimeter of the figure below. (3 marks)
-
29. The three sectors of a pie-chart care, savings and food are in the ratio 3 : 1 : 2 respectively. using a radius of 4cm, construct an accurate pie-chart to represent the given information above. (5 marks)
30. In a village, $\frac{1}{4}$ of the farmers grow matoke, $\frac{2}{3}$ of the remainder grow cassava while the rest of the farmers grow millet. If those who grow millet are 45 farmers, how many farmers are in the village? (5 marks)

31. The figure below shows a sitting room with a carpet as shown below.



Calculate the area uncovered by the carpet.

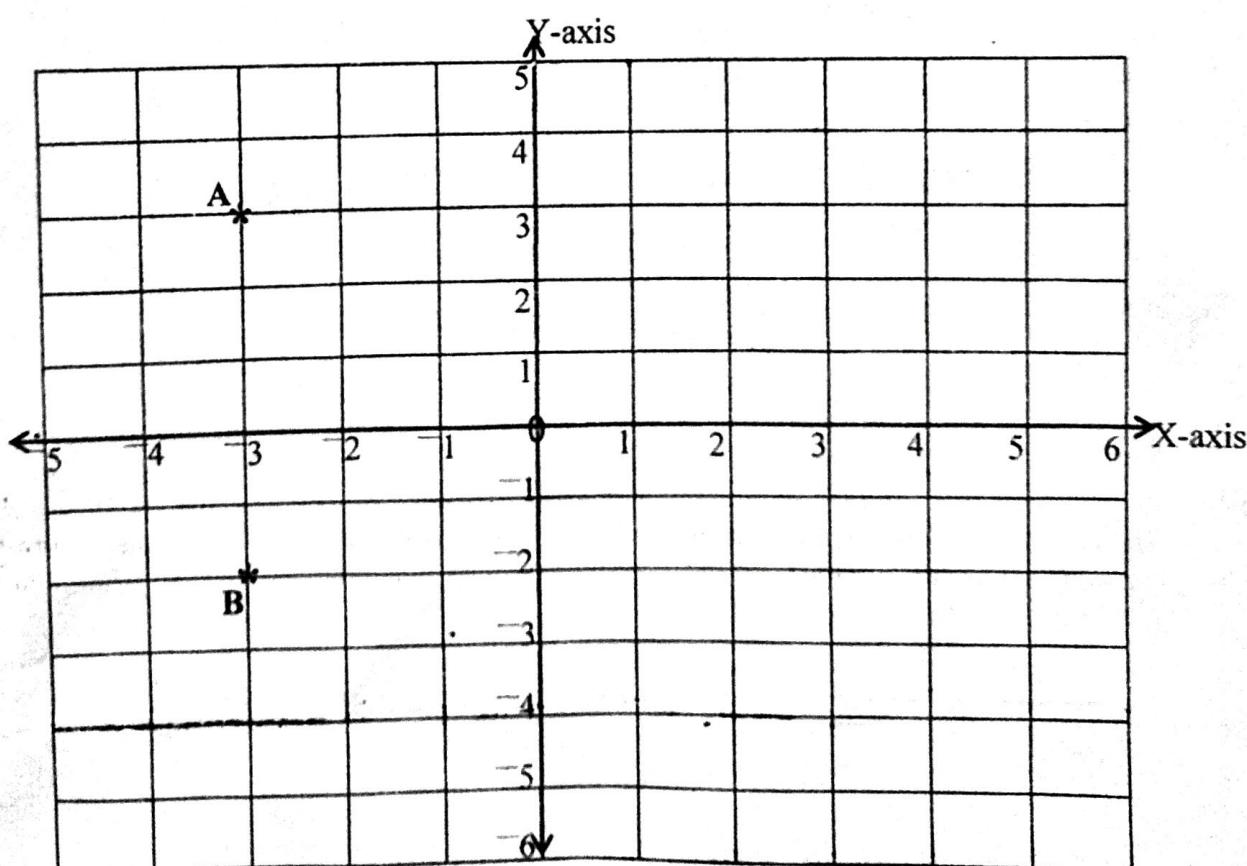
(5 marks)

32. (a) From the grid graph below, state the co-ordinates for points;

(i) A = (1 mark)

(ii) B =

(1 mark)



- (b) Plot the points C (5, -2) and D (1, 3).

(2 marks)

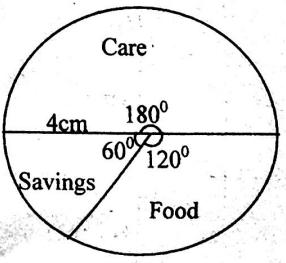
- (c) Join A to B, B to C, C to D, D to A and name the quadrilateral formed.

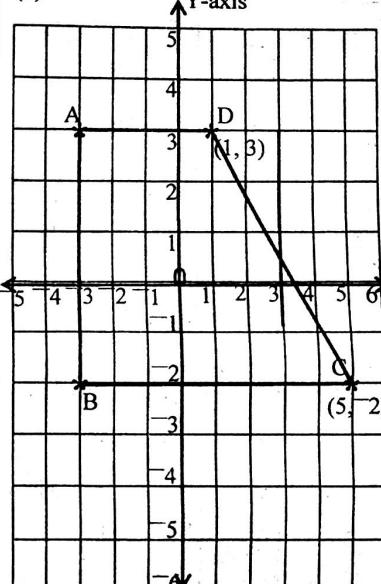
(2 marks)

P.7 MOCK MATHS MARKING GUIDE, 2024

S/N	SOLUTION	MRKS	COMMENTS	S/N	SOLUTION	MRKS	COMMENTS
1.	$\begin{array}{r} 4 \ 3 \ 0 \\ + 4 \ 5 \ 8 \\ \hline 8 \ 8 \ 8 \end{array}$	M ₁ A ₁	For correct addition For 888	9.	$\text{LCM of P and X} = 2 \times 2 \times 3 \times 5 = 60$	M ₁ A ₁	For multiplying For 60
2.	$\begin{array}{r} 0.25, \ 0.16, \ 0.09, \ 0.04, \ 0.01 \\ \downarrow \ 0.5 \times 0.5 \quad \downarrow \ 0.4 \times 0.4 \quad \downarrow \ 0.3 \times 0.3 \quad \downarrow \ 0.2 \times 0.2 \quad \downarrow \ 0.1 \times 0.1 \\ 0.1 \times 0.1 = 0.01 \end{array}$	M ₁ A ₁	For multiplication to obtain square decimals For 0.01	10.	$\begin{aligned} \text{Mean} &= \frac{\text{Sum}}{\text{Number of frequency}} \\ &= \frac{6m + 9m + 10m + 8m + 7m}{5} \\ &= \frac{31m + 25}{5} \\ &= 3m + 5 \end{aligned}$	M ₁ A ₁	For correct method For 3m + 5
3.	$\begin{array}{l} \text{Subsets in set K} = 8 \\ K = \{r, a, m\} \\ n(K) = 3 \text{ elements} \end{array}$	B ₂	For n(K) = 3 elements	11.	$\begin{array}{l} 3 - 5 = t \ (\text{finite } 7) \\ (3 + 7) - 5 = t \ (\text{finite } 7) \\ 10 - 5 = t \ (\text{finite } 7) \\ 5 = t \ (\text{finite } 7) \end{array}$	M ₁ A ₁	For correct use of finite 7 For 5 = t (finite 7)
4.	$\begin{array}{l} 2m + 2m + 40^\circ = 180^\circ \\ 4m + 40^\circ = 180^\circ - 40^\circ \\ 4m = 140^\circ \\ m = 35^\circ \end{array}$	M ₁ A ₁	For correct use of angle properties For m = 35°	12.	$\begin{array}{l} 3^2 \times 16 + 2^3 \\ 3 \times 3 \times 16 + 2 \times 2 \times 2 \\ (9 \times 16) + 8 \\ 144 + 8 \\ 152 \end{array}$	M ₁ A ₁	For using MDAS For 152
5.	$\begin{array}{l} (8 \times 10^2) + (3 \times 10^0) + (5 \times 10^{-1}) + \\ (3 \times 10^{-2}) \\ 8 \times 10 \times 10 + 3 \times 1 + 5 \times \frac{1}{10} + 3 \times \frac{1}{100} \\ 800 + 3 + \frac{5}{10} + \frac{3}{100} \\ 800 + 3 + 0.5 + 0.03 \\ 803.53 \end{array}$	M ₁ A ₁	For correct method For 803.53	13.	$\begin{array}{l} \text{Area of ABD} = \text{Area of BDA} \\ 1 \times b \times h = 1 \times b \times h \\ \frac{1}{2} \times 8 \times 16 \times h = \frac{1}{2} \times 20 \times 8 \times h \\ 8m \times h = 10 \times 8m \\ \frac{8m \times h}{8m} = \frac{10 \times 8m}{8m} \\ h = 10m \end{array}$	M ₁ A ₁	For correct method For h = 10m
6.	$\begin{array}{l} \text{Let the fraction be } r \\ r = 0.4545 \dots \dots \dots \text{ (x100)} \\ 100r = 45.45 \quad (-r) \\ r = 0.45 \\ \frac{99r}{99} = \frac{45}{99} \\ r = 5 \quad \boxed{99} \end{array}$	M ₁ A ₁	For correct method For r = 5	14.	$\begin{array}{l} \text{Let the angle be } \mathcal{X} \\ \mathcal{X} = 090^\circ + 180^\circ \\ \mathcal{X} = 270^\circ \end{array}$	M ₁ A ₁	For correct addition For 270°
7.	$\begin{array}{l} (y + p) \text{ from } 3y - p \\ 3y - p - (y + p) \\ 3y - p - y - p \\ 3y - y - p - p \\ 2y - 2p \end{array}$	M ₁ A ₁	For collection of like terms For 2y - 2p	15.	$\begin{array}{l} 1 \text{ US dollar costs Ug Shs. 3730} \\ 710 \text{ US dollars cost Ug Shs.} \\ 3730 \times 710 \\ = \text{Ug Shs. } 2,648,300 \end{array}$	M ₁ A ₁	For correct multiplication For Ug Shs. 2,648,300
8.	$\begin{array}{l} \text{Numeral} = 1023 \\ \text{TH} \quad H \quad T \quad O \\ \quad \quad \quad \\ 1 \quad 0 \quad 2 \quad 3 \end{array}$	B ₁ B ₁	For 1023 For correct completion of abacus	16.	$\begin{array}{l} 1 \text{ minute} = 60 \text{ seconds} \\ 2 \text{ minutes} = 2 \times 60 \text{ seconds} \\ = 120 \text{ seconds} \\ 1 \text{ hour loses } 5 \text{ seconds} \\ ? \text{ hours} = \frac{120}{24} \\ = 24 \text{ hours} \end{array}$	M ₁ A ₁	For correct method For 24 hours

S/N	SOLUTION	MRKS	COMMENTS	S/N	SOLUTION	MRKS	COMMENTS
17.	Probability = $\frac{\text{EOC}}{\text{POC}}$ = $\frac{\text{draw}}{\text{win} + \text{lose} + \text{draw}}$ = $\frac{1}{3}$	M ₁ A ₁	For correct method For $\frac{1}{3}$	22.	(a) Volume = $L \times W \times H$ = $60\text{cm} \times 30\text{cm} \times 140\text{cm}$ = $1800\text{cm} \times 140\text{cm}^3$ = 252000cm^3	M ₁ A ₁	For correct multiplying For 252000cm^3
18.	Original price = $\frac{100}{10} \times \text{Shs. } 34000$ = $10 \times \text{Shs. } 34000$ = $100 \times \text{Shs. } 340$ = $30,600$	M ₁ A ₁	For correct multiplication For 30,600		(b) Cubes = Along the length x width x height = $60\text{cm} \times \frac{30\text{cm}}{10} \times \frac{140\text{cm}}{10}$ = $6 \times 3 \times 14$ cube juice tins = 252 cube juice tins	M ₁ M ₁ A ₁ 05	For correct division For correct multiplication For 252 cube juice tins
19.		C ₁ A ₁	For accurate arcs For bisecting line through line AC	23.	(a) $3y + 1 + y + 5 = 22$ $3y + y + 1 + 5 = 22$ $4y = 22 - 6$ $4y = 16$ $y = 4$	M ₁ A ₁	For forming equation For y = 4
20.	8 men take 5 days 1 man takes 8×5 days 4 men take $\frac{8 \times 5}{4}$ days = 10 men	M ₁ A ₁	For correct method For 10 men		(b) Total = $3y + 1 + y + 5 + 13 + y + 5$ = $12 + 1 + 4 + 5 + 13 + 4 + 5$ = 44 women	M ₁ A ₁ 04	For correct substitution For 44 women
21.	(a) 30.4×10^{-2} 30.4×1 $= 0.304$	M ₁ A ₁	For correct method For 0.304	24.	(a) SKETCH 	S ₁	For correct sketch
	(b) $33_n = 120_{\text{base four}}$ $(3 \times n^2) + (3 \times n^1) = (1 \times 3^2) + (2 \times 3^1)$ $+ (0 \times 3^0)$ $3 \times n^2 + 3 \times n^1 = 1 \times 3^2 + 2 \times 3^1 + 0$ $3n^2 + 3n^1 = 9 + 6 + 0$ $3n^2 + 3n^1 = 15$ $3n^2 = 15 - 3$ $3n^2 = 12$ $n^2 = 4$ $n = 2$ n = base four	M ₁ A ₁	For correct method For n = base four		ACCURATE DIAGRAM 	L ₁ A ₁ L ₁ L ₁ B ₁ 06	For length WX = 6cm For accurate angle 60° For length XY = 7cm For correct perpendicular bisector For $6\text{cm} \pm 0.1\text{cm}$
	(c) Heaps of five = $300 - (30 \times 6)$ = $300 - 180$ tomatoes Heaps = $\frac{120}{5}$ tomatoes = 24 heaps of five tomatoes	B ₁ B ₁ 06	For 120 tomatoes For 24 heaps		(b) YA = 6cm		

S/N	SOLUTION	MRKS	COMMENTS	S/N	SOLUTION	MRKS	COMMENTS
25.	(a) Distance = Speed x Time = $\frac{80\text{km}}{\text{hr}} \times \frac{3\text{hr}}{1}$ = $80\text{km} \times 3$ = 240km (b) Average speed = $\frac{\text{Distance}}{\text{Time}}$ Time = $3 + 1 + \frac{240\text{km}}{60\text{hr}}$ = 8 hours Average speed = $\frac{240\text{km} + 240\text{km}}{8\text{hr}}$ = $\frac{480\text{km}}{8\text{hr}}$ = 60km/hr	M ₁ A ₁ B ₁ M ₁ A ₁ 05	For correct multiplying For 240km For 8 hours For correct method For 60km/hr	28.	(a) $t = \frac{2}{2+3}$ y = $\frac{5}{5+5}$ = $\frac{2 \times 2}{5+3}$ = $\frac{4}{8}$ = $\frac{2}{4}$ (b) $(2n - 2)\text{dm} = (n + 4)\text{dm}$ $2n - n = 4 + 2\text{dm}$ $n = 6\text{dm}$ Perimeter = $4L$ = $4(6 + 4)\text{dm}$ = $4 \times 10\text{dm}$ = 40dm	M ₁ A ₁ B ₁ M ₁ A ₁ 05	For correct substitution For $\frac{2}{3}$ For $n = 6\text{dm}$ For correct method For 40dm
26.	(i) Cooking oil = Shs. $6000 \times \frac{1}{2}$ = Shs. $\frac{3000}{6000} \times \frac{3}{2}$ = Shs. 9,000 (ii) Apples = 5 apples = Shs. 5000 = 1 apple = $\frac{5000}{5}$ = 14 apples = $\frac{5000}{5} \times 14$ = Shs. 14,000 (iii) Total = Shs. 9000 + 14000 + 4000 = Shs. 27,000 (iv) Change = Amount — Expenditure = $3 \times 10,000 - \text{Shs. } 27,000$ = Shs. 30,000 — Shs. 27,000 = Shs. 3,000	B ₁ B ₁ B ₁ B ₁ 04	For Shs. 9,000 For Shs. 14,000 For Shs. 27,000 For Shs. 3,000	29.	(i) Total ratio = $3 + 1 + 2 = 6$ (ii) Care = $\frac{3}{6} \times 360^\circ$ = 180° (iii) Savings = $\frac{1}{6} \times 360^\circ$ = 60° (iv) Food = $\frac{2}{6} \times 360^\circ$ = 120° Accurate pie-chart	B ₁ B ₁ B ₁ B ₁	For total ratio = 6 For care = 180° For savings = 60° For food = 120° For accurate pie-chart of radius 4cm
27.	(a) $k = 20^\circ + (180^\circ - 140^\circ)$ $k = 20^\circ + 40^\circ$ $k = 60^\circ$ (b) Interior angle sum = $180(n - 2)$ = $\frac{180(n - 2)}{180} = \frac{1440^\circ}{180^\circ}$ = $n - 2 = 8$ $n - 2 + 2 = 8 + 2$ $n = 10$ sides	M ₁ A ₁ M ₁ A ₁ 04	For correct use of angle properties For $k = 60^\circ$ For correct method For 10 sides			C ₁ 05	

S/N	SOLUTION	MRKS	COMMENTS	S/N	SOLUTION	MRKS	COMMENTS
30.	$\text{Matooke} = \frac{1}{4}$ $1 - \frac{1}{4} = \frac{4-1}{4}$ $= \frac{3}{4}$ $\text{Cassava} = \frac{2}{4} \times \frac{3}{4}$ $= \frac{1}{2}$ $\text{Millet} = 1 - \frac{1}{4} + \frac{1}{2}$ $1 - \frac{1+2}{4}$ $1 - \frac{3}{4} = \frac{4-3}{4}$ $= \frac{1}{4}$ <p>Let the number be y $\frac{1}{4}$ of $y = 45$ farmers $4 \times \frac{1}{4} \times y = 45$ farmers $\times 4$ $y = 45 \times 4$ farmers $y = 180$ farmers</p>	B ₁ B ₁ B ₁ M ₁ A ₁ 05	For obtaining $\frac{1}{4}$ For obtaining $\frac{3}{4}$ For obtaining $\frac{1}{4}$ For forming equation For 180 farmers	32.	(a) (i) $A = (-3, 3)$ (ii) $B = (-3, -2)$ (b) 	P ₁ P ₁ X-axis J ₁ B ₁ 06	For A (-3, 3) For C (-3, -2) For plotting C (5, -2) correctly For plotting D (1, 3) For joining all points correctly For trapezium
31.	Area of a room = $L \times W$ $= 24\text{m} \times 17\text{m}$ $= 408\text{m}^2$ Length of carpet = $24\text{m} - (3\text{m} + 3\text{m})$ $= 24\text{m} - 6\text{m}$ $= 18\text{m}$ Width of carpet = $17\text{m} - (3\text{m} + 3\text{m})$ $= 17\text{m} - 6\text{m}$ $= 11\text{m}$ Area of carpet = $L \times W$ $= 18\text{m} \times 11\text{m}$ $= 198\text{m}^2$ Area not covered by carpet $= 408\text{m}^2 - 198\text{m}^2$ $= 210\text{m}^2$	B ₁ B ₁ B ₁ B ₁ 05	For 408m ² For length 18m For width 11m For 198m ² For 210m ²				